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Trigger Finger Release Performed Wide Awake: Prospective Comparison of Local Anesthetics

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Introduction

Trigger Finger Release Performed Wide Awake: Prospective Comparison of Local Anesthetics

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Investigation performed at the Rothman Institute at Thomas Jefferson University, Philadelphia, PA.

Background

Trigger finger (TF) is one of the most common conditions treated by hand surgeons with a lifetime risk up to 10% in patients with diabetes. If conservative management fails, surgical treatment is undertaken, with or without sedation and a tourniquet, via a small incision to release the TF pulley. A number of local anesthetics are readily available including Lidocaine, Ropivacaine and Marcaine as well as encapsulated formulations thereof such as Exparel. Since its approval in 2011, there have been numerous reports of successfully achieving prolonged pain relief with locally injected Exparel after various procedures, but to the best of our knowledge there have been no reports of its use in ambulatory hand surgery. In this study we prospectively evaluated the efficacy of Lidocaine, Marcaine, or bupivacaine with post-operative Exparel in controlling pain, opioid usage, and adverse reactions following TF surgery.

Methods

After obtaining institutional review board (IRB) approval, all consecutive patients scheduled to undergo single-digit TF surgery were invited to participate. All procedures were performed under local anesthesia without sedation by one of seven fellowship-trained hand surgeons. The technique for injection was that of a single volar injection at the level of the A1 pulley with a volume of 5-10ml of local anesthetic delivered subcutaneously and superficial to the flexor tendon sheath. The injectate consisted of either a) 1% Lidocaine, b) 0.5% Marcaine, or c) 0.5% bupivacaine with post-operative Exparel injection into the closed surgical site. Patients were instructed to record their medication use, their pain levels using a Visual Analogue Scale (VAS), and adverse reactions following TF surgery. Patients were enrolled over a 6 month period in 2014. The study consisted of a total of 163 patients in the Lidocaine group, 109 in the Marcaine group and 51 patients in the Exparel group. After excluding patients lost to follow up, the Marcaine group included 50 patients (85 women and 75 men), with only 9 patients lost to follow up for an overall attrition rate of 5.5%. After excluding patients lost to follow up, the Marcaine group included 50 patients (85 women and 75 men), with only 9 patients lost to follow up for an overall attrition rate of 5.5%. After excluding patients lost to follow up, the Marcaine group included 50 patients (85 women and 75 men), with only 9 patients lost to follow up for an overall attrition rate of 5.5%.

Results

Patients were instructed to record their medication use, their pain levels using a Visual Analogue Scale (VAS), and adverse reactions following TF surgery. Patients were enrolled over a 6 month period in 2014. The study consisted of a total of 163 patients in the Lidocaine group, 109 in the Marcaine group and 51 patients in the Exparel group. After excluding patients lost to follow up, the Marcaine group included 50 patients (85 women and 75 men), with only 9 patients lost to follow up for an overall attrition rate of 5.5%.

Discussion

To the best of our knowledge this is the first report on the comparative efficacy of local anesthetics in ambulatory hand surgery specifically comparing Lidocaine, Marcaine, and Exparel. Our results suggest that patients treated with Marcaine attain better pain control than those treated with Lidocaine on POD 0-1, but only patients that receive Exparel maintain the lowest pain levels through POD 0-3. More importantly, this is achieved while using little-to-no opioid medications and with less adverse reactions than with Lidocaine or Marcaine alone. In agreement with what has been reported in other series, Exparel generally appears to make most of the difference in pain perception in the first 1-2 days after surgery. Overall, pain following trigger finger release surgery performed wide awake and without a tourniquet is low. However, longer pain relief, decreased opioid consumption, and a better adverse reaction profile is a goal that physicians and patients strive to achieve. More studies are needed to validate both the efficacy and cost of Exparel versus other local anesthetic agents in patients undergoing more extensive and painful hand and orthopaedic surgical procedures.